

Appl. No. 09/805,535
Amdt. Dated 2-14-206
Reply to Office action of 11-14-2005

REMARKS/ARGUMENTS

Claims 1-30 are pending in the present application.

This response is in response to the Office Action mailed November 14, 2005. In the Office Action, the Examiner rejected claims 1, 2, 9, 11, 12, 19, 21, 22, and 29 under 35 U.S.C. §102(b) and claims 10, 20, and 30 under 35 U.S.C. §103(a). Reconsideration in light of the remarks made herein is respectfully requested.

Rejection Under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1, 2, 9, 11, 12, 19, 21, 22, and 29 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,912,475 issued to Counselman, III ("Counselman"). Applicants respectfully traverse the rejection and contend that the Examiner has not met the burden of establishing a prima facie case of anticipation.

Counselman discloses techniques for determining orbital data. One tracking channel 112 is assigned to each satellite, and selectively detects only carriers from its assigned satellite, using satellite-specific estimates 116 of the time-varying Doppler shift of the signals received from that satellite (Counselman, col. 22, lines 16-20). The tracking channel 112 includes a range generator 300 which receives a satellite-specific range rate estimate 298 and generates therefrom a $2f_0$ phase estimate 310 which is used by four synchronous detectors to detect and measure the phases of four reconstructed carriers of the particular satellite to which this tracking channel 112 is assigned (Counselman, col. 27, lines 39-46). The range generator 300 includes two digital registers, range register 450 and rate register 460 (Counselman, col. 33, lines 7-9). Range increment 462 represents the time rate of change of $2f_0$ phase estimate 310 in units equal to 110,000 kHz, that is, 110,000 cycles of phase per second (Counselman, col. 33, lines 41-43).

Counselman does not disclose, either expressly or inherently, at least one of (1) a control circuit to generate a channel enable signal based on control information from a processor at a first clock signal having a first clock frequency, (2) the channel enable signal selecting a channel for a satellite in a global positioning system (GPS), (3) the channel operating at a coarse/acquisition (C/A) clock signal having a second clock frequency, (4) an increment register to store an increment value for the selected channel at the first clock signal, and (5) an

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accumulator coupled to the increment register and the control circuit to generate a PN clock signal using the increment value.

Counselman merely discloses a tracking channel assigned to each satellite and selectively detects only carriers from its assigned satellite (Counselman, col. 22, lines 16-20), not a control circuit to generate a channel enable signal. Furthermore, the carriers are reconstructed within the receiver (Counselman, col. 21, lines 43-44). Therefore, they cannot operate at a C/A clock signal.

The Examiner contends that Figure 6 discloses an increment register and accumulator for determining a rate range estimate (Office Action, page 3, lines 3-5). However, the range increment is merely the time rate of change of $2f_0$ phase estimate, not an increment value for the selected channel. Furthermore, the increment is not stored at the first clock frequency. In addition, Counselman merely discloses that the number contained in the range register is $2f_0$ phase estimate (Counselman, col. 33, lines 17-18), not to generate a PN clock signal using the increment value. In fact, Counselman does not disclose using the pseudo random number (PN) clock signal at all.

Regarding claims 9, 19, and 29, the Examiner contends that the frequency of a C/A clock is 1.023 MHz. However, Counselman discloses that the C/A code sequence generating a frequency of 1 kHz (Counselman, col. 3, lines 40-45).

To anticipate a claim, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Vergegal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the...claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989). Since the Examiner failed to show that Counselman teaches or discloses any one of the above elements, the rejection under 35 U.S.C. §102 is improper.

Therefore, Applicants believe that independent claims 1, 11, and 21 and their respective dependent claims are distinguishable over the cited prior art references. Accordingly, Applicants respectfully request the rejection under 35 U.S.C. §102(b) be withdrawn.

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Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 10, 20, and 30 under 35 U.S.C. §103(a) as being unpatentable over Counselman in view of U.S. Patent No. 6,282,231 issued to Norman et al. ("Norman"). Applicants respectfully traverse the rejection and contend that the Examiner has not met the burden of establishing a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP* §2143, p. 2100-129 (8th Ed., Rev. 2, May 2004). Applicants respectfully contend that there is no suggestion or motivation to combine their teachings, and thus no *prima facie* case of obviousness has been established.

Counselman discloses techniques for determining orbital data as discussed above.

Norman discloses a strong signal cancellation to enhance processing of weak spread spectrum signal. An SPS-equipped GPS receiver will receive at any given time the L1 ranging signals from as many as twelve satellites, all multiplexed on the same carrier frequency, each modulated by its own C/A PRN Gold code (Norman, col. 4, lines 18-21).

Counselman and Norman, taken alone or in any combination, does not disclose, suggest, or render obvious at least one of (1) a control circuit to generate a channel enable signal based on control information from a processor at a first clock signal having a first clock frequency, (2) the channel enable signal selecting a channel for a satellite in a global positioning system (GPS), (3) the channel operating at a coarse/acquisition (C/A) clock signal having a second clock frequency, (4) an increment register to store an increment value for the selected channel at the first clock signal, and (5) an accumulator coupled to the increment register and the control circuit to generate a PN clock signal using the increment value, and (6) the channel enable signal is one of twelve enable signals corresponding to twelve satellites.

Counselman does not disclose or suggest any one of elements (1) – (5) as discussed above in the 102(b) rejection. Norman merely discloses a GPS receiver receiving ranging signals from as many as twelve satellites, not generating twelve channel enable signals.

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There is no motivation to combine Counselman and Norman because neither of them addresses the problem of PN shift control for fast multiple GPS signal retracking. There is no teaching or suggestion that a PN generator and re-tracking circuit is present. Counselman, read as a whole, does not suggest the desirability of generating 12 channel enable signals. For the above reasons, the rejection under 35 U.S.C. §103(a) is improperly made.

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to: (A) The claimed invention must be considered as a whole; (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and (D) Reasonable expectation of success is the standard with which obviousness is determined. Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986). "When determining the patentability of a claimed invention which combined two known elements, 'the question is whether there is something in the prior art as a whole suggest the desirability, and thus the obviousness, of making the combination.'" In re Beattie, Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 1462, 221 USPQ (BNA) 481, 488 (Fed. Cir. 1984). To defeat patentability based on obviousness, the suggestion to make the new product having the claimed characteristics must come from the prior art, not from the hindsight knowledge of the invention. Interconnect Planning Corp. v. Feil, 744 F.2d 1132, 1143, 227 USPQ (BNA) 543, 551 (Fed. Cir. 1985). To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the Examiner to show a motivation to combine the references that create the case of obviousness. In other words, the Examiner must show reasons that a skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the prior elements from the cited prior references for combination in the manner claimed. In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1996), 47 USPQ 2d (BNA) 1453. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or implicitly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973. (Bd.Pat.App.&Inter. 1985). The mere fact that references can be combined or

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modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Furthermore, although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." In re Mills 916 F.2d at 682, 16 USPQ2d at 1432; In re Fitch, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

In the present invention, the cited references do not expressly or implicitly suggest twelve channel enable signals. In addition, the Examiner failed to present a convincing line of reasoning as to why a combination of Counselman and Norman is an obvious application of precision PN shift control for fast signal re-tracking..

Therefore, Applicants believe that independent claims 1, 11, and 21 and their respective dependent claims are distinguishable over the cited prior art references. Accordingly, Applicants respectfully requests the rejection under 35 U.S.C. §103(a) be withdrawn.

Allowable Subject Matter

Applicants note with appreciation the Examiner's indication of allowable subject matter. The Examiner objects to claims 3-8, 13-18, and 23-28 as being dependent on a rejected base claim, but indicates that the claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, in light of the above arguments, Applicants respectfully request the objections be withdrawn and all claims be allowed.

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Conclusion

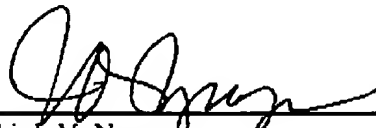
Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: February 14, 2006

By


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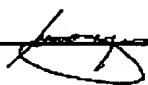
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